

**FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION***(please fill in the highlighted areas)***I. APPLICANT INFORMATION**

- A. Applicant Name: Green Mountain Conservation District
- B. Mailing Address: P. O. Box 1329
- C. City: Trout Creek State: MT Zip: 59874
- Telephone: 406-827-4833 E-mail: GMCD@blackfoot.net
- D. Contact Person: Leona Gollen, District Administrator
- Address if different from Applicant: _____
- City: _____ State: _____ Zip: _____
- Telephone: _____ E-mail: _____
- E. Landowner and/or Lessee Name (if other than Applicant): Multiple landowners involved in project
- Mailing Address: _____
- City: _____ State: _____ Zip: _____
- Telephone: _____ E-mail: _____

II. PROJECT INFORMATION*

- A. Project Name: Bull River Riparian Restoration Project
- River, stream, or lake: Bull River, a major tributary to the Lower Clark Fork River
- Location: Township: 27N Range: 33W Section: 24
- Latitude: 48°04'42.15"N Longitude: 115°47'13.34"W *within project (decimal degrees)*
- County: Sanders
- B. Purpose of Project:
- To reduce sediment loading and improve fish habitat and water quality in the Bull River.
- C. Brief Project Description:
- The multi-year project will plant, monitor and maintain native trees and shrubs along the Bull River to re-establish a healthy, diverse and functioning riparian community.

D. Length of stream or size of lake that will be treated: Approx. 11,000 linear ft of river frontage

E. Project Budget:

Grant Request (Dollars): \$ \$50,000

Contribution by Applicant (Dollars): \$ In-kind \$
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ \$174,770 In-kind \$
(attach verification - See page 2 budget template)

Total Project Cost: \$ \$224,770

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).
See attached.

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.
See attached.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Native fish targeted for benefiting from this project are bull trout (*Salvelinus confluentus*), a federally listed threatened species, and westslope cutthroat trout (*Oncorhynchus clarki lewisi*), a Montana Species of Special Concern. Native mountain whitefish (*Prosopium williamsoni*) are also present in the Bull River drainage. The Bull River drainage provides the most important spawning and rearing habitat for native westslope cutthroat trout and bull trout in the entire Cabinet Gorge reach of the lower Clark Fork River. Last year, 21 bull trout redds were counted in the East Fork Bull River which is the highest number since 2003. Additionally, many on-going projects in the drainage are intended to benefit native species such as non-native suppression/exclusion in the EFBR, upstream and downstream transport of bull trout around Cabinet Gorge dam, and many other habitat restoration projects throughout the drainage. In 2015, we will also begin experimental passage of adult westslope cutthroat trout over Cabinet Gorge dam into Montana from Lake Pend Oreille in Idaho. The Bull River also receives a fall run of spawning brown trout which are popular with anglers.

B. How will the project protect or enhance wild fish habitat?:

The goal of the project is to reduce sediment loading and improve water quality and fish habitat in the Bull River. Bull River is impaired by sedimentation and physical habitat alterations, which have affected the river's cold water life and its cold water fishery. Sources of sediment have been identified as bank erosion (36.5% of the current load), roads and upland load. Our project will address bank erosion by planting native shrubs and trees along approx. 11,000 linear ft. of river. This work will, over time, improve streambank stability and re-establish a complex, healthy, and functioning riverine riparian area to reduce sediment loading and enhance habitat for wild fish.

The project is based on water quality goals and restoration priorities established in several watershed-specific assessments and restoration plans for the Bull River (see attached narrative). Re-establishment of the structural and functional diversity of riparian vegetation along the main stem Bull River has been identified as the top priority for restoration in the watershed.

C. Will the project improve fish populations and/or fishing? To what extent?:

Our project will improve stream bank stability, enhance the complexity of riparian communities, provide shade to the stream channel, and inhibit the delivery of sediment to the river from overland flow. By improving stream bank and riparian conditions, our project is expected, over time, to increase fish populations and opportunities for fishing in the Bull River system. A very thorough and long-term dataset exists for the fish populations in the Bull River and many of its tributaries. Additionally, a creel survey is planned for 2015. Although there are many concurrent projects meant to improve fisheries in the Bull River, it will be easy to detect changes in fish populations and angling success in the Bull River in future years.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

The project will increase the potential for native fish population growth, thereby enhancing recreational fishing opportunities for westslope cutthroat trout. Public fishing on U. S. Forest Service lands in the watershed is popular with locals and other visitors to the Kootenai National Forest, and is expected to remain available in the future. Public fishing on private lands takes place in areas where landowners will grant permission. Montana FWP angling pressure surveys have shown the Bull River to be steadily popular with both in-state and out of state anglers. Additionally, FWP and Avista Utilities are pursuing a land purchase for a fishing access site on the lower Bull River.

E. If the project requires maintenance, what is your time commitment to this project?:

Green Mountain Conservation District (GMCD) will enter into a 20-year agreement with each landowner. (We will be working with multiple landowners to reach our goal of 11,000 linear feet.) Each agreement will include detailed plans for future land management and project maintenance to ensure the long term success of the project. The maintenance plan will focus on routine (annual) monitoring of the project and implementation of maintenance work, such repairs to browse protection, if necessary. Fortunately, Avista Corporation, a project partner, provides annual funding for maintaining habitat restoration projects and will likely fund repairs to this riparian restoration project, if needed. GMCD is committed to working over the long term with participating landowners and appropriate resource agencies to ensure maintenance of the restoration work and fulfill the purpose of the project.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Causes of degradation include historic (fires, flooding, and timber harvest) and current (residential development, pasture clearing and riparian harvest) land uses. These uses have resulted in a vegetation shift along the banks of the main stem of the Bull River from native shrubs and trees to a dominance of non-native pasture grasses including the invasive and highly competitive reed canarygrass. The project will address degraded riparian habitat conditions by aggressively planting and promoting the growth of native shrubs and trees along the river's riparian zone. Plant species will be selected that stabilize soils quickly and will, through time, develop into a riparian forest; each site will be assessed to determine the best species suitable for that site. Measures will also include browse and non-native plant control. The project's multi-year re-vegetation approach has proven very effective in the Bull River and other nearby watersheds, with 85%-95% planting survival success rates.

G. What public benefits will be realized from this project?:

The project will augment and enhance public investments that have been made in stream habitat and riparian restoration projects in the Bull River watershed, as well as private investments made by Bull River landowners to permanently preserve natural resource values of their properties through conservation easements. It is likely that improvements to the main stem's riparian community will result in increased native fish populations, thereby enhancing recreational fishing opportunities. The project will provide stakeholders with a large-scale on-the-ground example for educating landowners in the watershed and the general public about healthy riparian areas—and how improved conditions can be achieved through proven restoration techniques. The project will also provide employment for several local Montana contractors during the implementation phase.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No.

J. Is this project associated with the reclamation of past mining activity?:

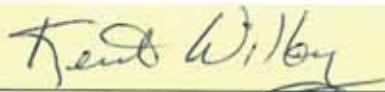
No.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:



Date:

11/18/14

Sponsor (if applicable):

Green Mountain Conservation District

***Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701**

**E-mail To: Michelle McGree
mmcgree@mt.gov**

**Incomplete or late applications will be returned to applicant.
Applications may be rejected if this form is modified.**

*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

003-2015

Bull River riparian restoration

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
<u>Personnel</u>								
Bull River Plan	1	lump sum	\$1,500.00	\$ 1,500.00			1,500.00	\$ 1,500.00
Site Designs	10	site plans	\$1,048.00	\$ 10,480.00			10,480.00	\$ 10,480.00
Monitoring Plan	1	lump sum	\$1,000.00	\$ 1,000.00			1,000.00	\$ 1,000.00
Monitoring	1	lump sum	\$16,000.00	\$ 16,000.00			16,000.00	\$ 16,000.00
Public workshop	1	lump sum	\$1,470.00	\$ 1,470.00			1,470.00	\$ 1,470.00
Evaluation	1	lump sum	\$2,000.00	\$ 2,000.00			2,000.00	\$ 2,000.00
			Sub-Total	\$ 32,450.00	\$ -	\$ -	\$ 32,450.00	\$ 32,450.00
<u>Travel</u>								
Mileage				\$ -				\$ -
Per diem				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
<u>Construction Materials</u>								
Solar fabric*	12000	linear ft	\$3.17	\$ 38,040.00			38,040.00	\$ 38,040.00
Fencing*	12000	linear ft	\$7.10	\$ 85,200.00	20,000.00		65,200.00	\$ 85,200.00
Plantings*	11000	linear ft	\$6.28	\$ 69,080.00	30,000.00		39,080.00	\$ 69,080.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 192,320.00	\$ 50,000.00	\$ -	\$ 142,320.00	\$ 192,320.00
<u>Equipment</u>								
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
<u>Mobilization</u>								
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -				\$ -

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

TOTALS		\$	224,770.00	\$	50,000.00	\$	-	\$	174,770.00	\$	224,770.00
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*Units = feet, hours, inches, lump sum, etc.

MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Verified? (Y/N)
Montana DEQ 319 Nonpoint Source grant	\$ -	\$ 159,470.00	\$ 159,470.00	Y
Avista	\$ -	\$ 15,300.00	\$ 15,300.00	Y
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
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	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	

G. Project Narrative

1. Project Background

The Bull River flows approximately 18 miles from the southwestern slopes of the Cabinet Mountain Wilderness area to its confluence with the lower Clark Fork River near the town of Noxon in northwestern Montana. While upper reaches of the watershed are in public lands (Kootenai National Forest), the majority of the river valley bottom is privately owned. According to the Bull River Watershed Assessment (2001), land use practices adjacent to the river (primarily agricultural practices) have greatly influenced the structure and composition of streamside vegetation, resulting in impacts to the river's channel and bank stability. Conversion to non-native, shallow rooted grass species—most notably reed canarygrass—has played a significant role in reducing bank stability. Reed canarygrass out-competes native plants for light, water, space and nutrients and has become a common riparian component of Bull River floodplains and terraces, sometimes forming solid cover over many acres.

The Bull River drainage provides the most important spawning and rearing habitat for native westslope cutthroat trout (*Oncorhynchus clarki lewisii*) and bull trout (*Salvelinus confluentus*) in the entire Cabinet Gorge reach of the lower Clark Fork River. It has been the focus of aggressive native species recovery actions since 2000, and continues to serve as an important recreational fishery, primarily for westslope cutthroat trout and brown trout (*Salmo trutta*). In 2000, passage of bull trout over Cabinet Gorge dam into Cabinet Gorge reservoir marked the first time in half a century that adfluvial Bull River bull trout had access to their spawning grounds after maturing in Lake Pend Oreille, ID. Last year, 21 bull trout redds were counted in the East Fork Bull River (EFBR) which is the highest number in over a decade. Additionally, numerous other projects in the drainage are intended to benefit native species such as non-native suppression/exclusion in the EFBR, upstream and downstream transport of bull trout around Cabinet Gorge dam, and habitat restoration throughout the drainage. In 2015, experimental passage of adult westslope cutthroat trout over Cabinet Gorge dam into Montana from Lake Pend Oreille, ID will begin. Again, this will be the first time in 60 years that Montana origin adfluvial westslope cutthroat trout have access to their natal spawning streams. Currently there are 200-300 adult westslope cutthroat trout captured annually below Cabinet Gorge Dam in Idaho, most of which are suspected to have originated from the Bull River drainage.

The watershed assessment and the follow-up Bull River Watershed Restoration Prioritization Plan Update (2013) have identified specific actions and areas for improving channel stability and fish habitat due to impacts from reed canarygrass and lack of native riparian vegetation. Recommended actions include aggressive planting of native riparian trees and shrubs, coupled with targeted control of non-native plants. Restoration of the river's riparian habitat will serve to stabilize eroding stream banks, provide shade and cover for fish from overhanging plants, enhance the complexity and biodiversity of riparian communities, and provide a source of food for fish (insects) and native seeds for recruitment of future woody material.

2. Sediment Reduction and Supporting Documentation

The project is based on water quality goals and restoration priorities for the Bull River as established in the watershed assessment and updated restoration prioritization plan, and also the Lower Clark Fork Tributaries Sediment TMDL and Framework for Water Quality Restoration (2010) and the Montana DEQ-approved Watershed Restoration Plan for the Lower Clark Fork TMDL Planning Area (2010). Bull River sediment loads quantified by DEQ are estimated at 12,832.6 tons/year; a 41% reduction in total sediment loading is needed to reach the target allocation of 7,259 tons/year. To meet this reduction, the TMDL calls for an approach that focuses on streamside riparian vegetation restoration and long-term riparian area management that will filter sediments and inhibit the delivery of sediment to the river from overland flow. The project also meets FWP objectives in Montana's Statewide Fisheries Management Plan for restoring degraded habitat in the Bull River

watershed and is consistent with native fish improvement goals of Avista¹'s Lower Clark Fork Native Salmonid Restoration Plan.

3. Project Design

In June 2014, Green Mountain Conservation District (GMCD) was awarded a \$290,000 Nonpoint Source Program Section 319 grant from Montana DEQ to implement measures to reduce sediment loading in the Bull River watershed. A large portion of the grant (\$159,470) will be used to carry out the Bull River Riparian Re-vegetation Project over a three year period (July 2014 through June 2017). During summer 2014, a public workshop was held to introduce Bull River landowners to the project; during and since that meeting, over 8 landowners have indicated their interest in participating. In October 2014, Watershed Consulting was selected as the contractor to undertake the project. The contractor is familiar with the Bull River watershed, has extensive knowledge of riparian re-vegetation techniques, and previously prepared the Bull River Ecological Assessment (2006), and the Re-vegetation Guide for the Lower Clark Fork River Basin (2009).

Using maps and the updated restoration prioritization plan, the contractor, FWP, GMCD and its technical advisors, will prioritize and select riparian sites. As landowner agreements are signed, the contractor will complete a site assessment and a site-specific planting and maintenance plan that maximizes each site's potential for success. Each assessment will define which plant species will best stabilize the site's soils, and through time develop into a riparian forest with appropriate bank strength, shade, and fish habitat. A 310 permit has already been acquired from GMCD for the project.

Based on well-documented riparian re-vegetation methods that have proven successful on Lower Clark Fork River tributaries, activities will include:

- Installation of heavy weed barrier fabric on reed canarygrass, allowing at least one year for weeds to die and decompose;
- Planting of native trees and shrubs starting in year 2, including willow, alder, cottonwood, riparian conifers and other native species as appropriate for each site;
- Installation of fencing to protect plants from animal browse;
- Maintenance and repairs to weed matting as needed; watering of trees and shrubs for at least the first summer season after planting; and additional planting as necessary to ensure each site's success.

Once the plantings are adequately protected with weed fabric and fencing, rapid growth is expected; past plantings in the area have grown about a foot in the first year with plant survivorship at nearly 95 percent. Cover is expected to double each year.

Monitoring methods: Monitoring of re-vegetated sites will be conducted per protocols in the Bull River Ecological Assessment and the Re-vegetation Guide for the Lower Clark Fork River Basin. Monitoring of plants will take place annually through a series of photo-points to visually assess success of plant growth and vigor measured each year by height, cover and rate of survival. Project effectiveness will be gauged by field observations to determine how well vegetation is providing stream bank strength and complicity, affecting sediment load reduction and shading the stream. Often these long-term benefits cannot be judged for at least several years after plant establishment; however, based on experience with other re-vegetation sites in the Bull River watershed, regular monitoring (including watering and re-planting as needed) in the short term is known to achieve long-term results.

Long-term improvements to fish populations will be measured through population surveys collected by electrofishing. Since 2000, there have been extensive fish population surveys conducted throughout the Bull

¹ Avista Corp. is a Washington-based utility company that operates 2 hydroelectric facilities on the Lower Clark Fork River.

River and its tributaries by FWP and Avista staff. A basin-wide fish population survey was conducted in 2014 and will serve as the baseline data to gauge success of this project. This survey included population estimates in the mainstem Bull River as well as all of its key tributaries. Other efforts in the Bull River watershed which will provide an on-going mechanism for tracking fish populations over time include annual juvenile and adult bull trout transport programs and bull trout redd surveys in the fall.

4. Project Partners and Support

Since the late 1990's, GMCD has been participating in and committed to long-term collaborative efforts with FWP, Avista, the U. S. Forest Service, NRCS, the Lower Clark Fork Watershed Group, the Bull River Watershed Council and six other watershed councils, and numerous private landowners to implement projects that restore the health and function of key tributaries in the Lower Clark Fork River system. Successful restoration and protection projects to date have focused on re-establishing quality tributary habitats by addressing the effects of sedimentation and channel instability on cold water fisheries and water quality. As key partners in these efforts, private landowners in the Bull River watershed and other tributary drainages have engaged in improving riparian habitats, conserving land, restoring stream segments and demonstrating project benefits to their neighbors.

Letters of support from the local FWP Fisheries Biologist, Ryan Kreiner, and the Bull River Watershed Council, Lower Clark Fork Watershed Group and Avista—as well as emails from Bull River landowners—are attached.

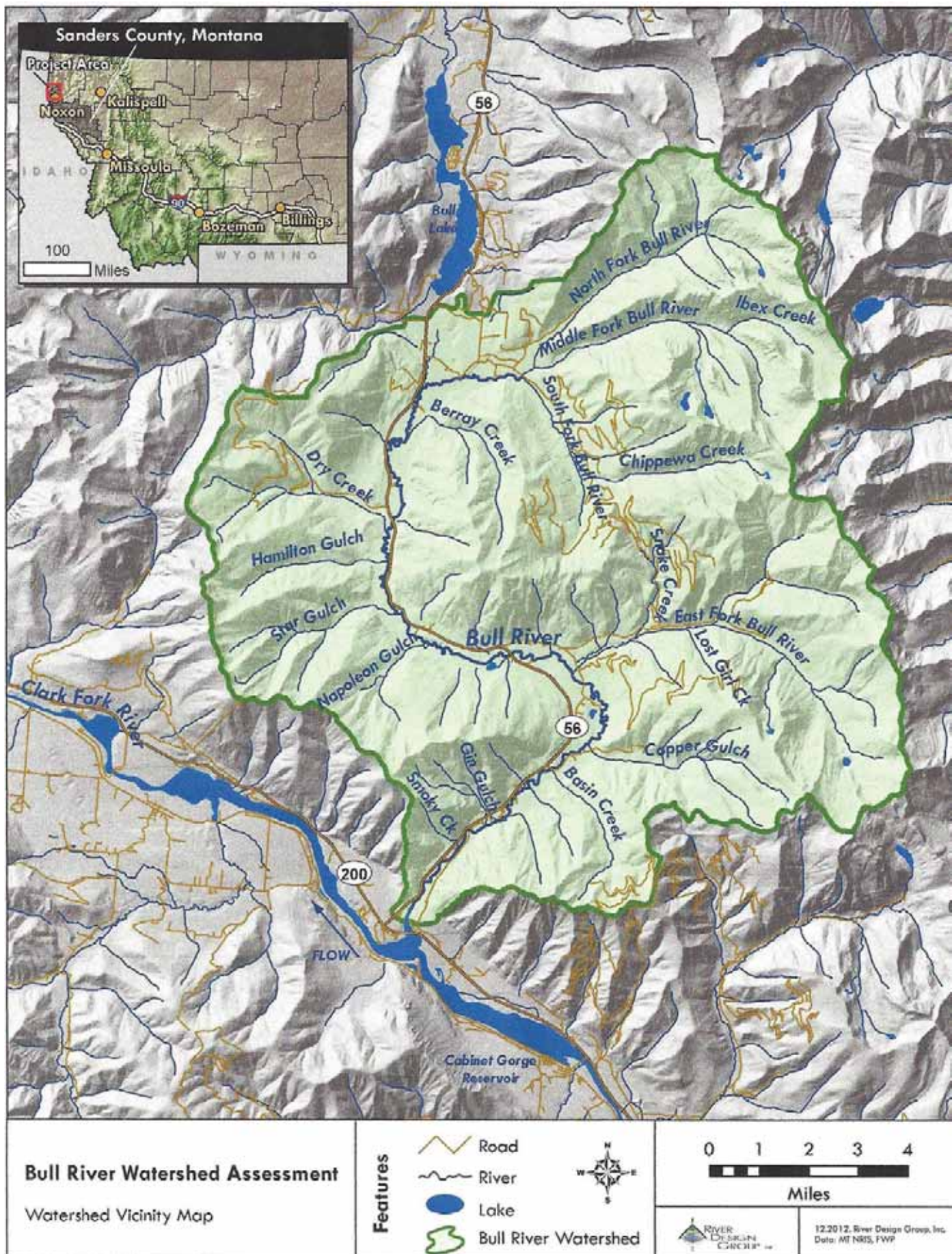
5. Project Funding

As described above, GMCD has received funding from Montana DEQ to implement the three-year project. Avista is providing cash match totaling \$15,300 toward re-vegetation project tasks. Additionally, there is considerable in-kind match from project partners, which is not reflected in the attached budget table because it involves agency staff time on the project. A \$50,000 grant from the Future Fisheries Improvement Program will enable us to implement the project on the full 11,000+ linear feet, which we are committed to undertaking.

Attachments:

- Project locator map
- Map of identified riparian re-vegetation sites along Bull River mainstem and watershed-wide
- Site Preparation and Site Plan for current riparian restoration demonstration project in Bull River
- Planting methodology (excerpt from the Lower Clark Fork River Basin Re-vegetation Guide)
- Landowner agreement example (agreements for the proposed project will include site-specific details)
- Letter of support from local FWP fisheries biologist, and additional letters and emails of support

Bull River Riparian Restoration Project, Project Locator Map



Site Preparation and Site Plan, Example from Current Project in Bull River Watershed



Bull River Watershed Restoration Prioritization Plan Update

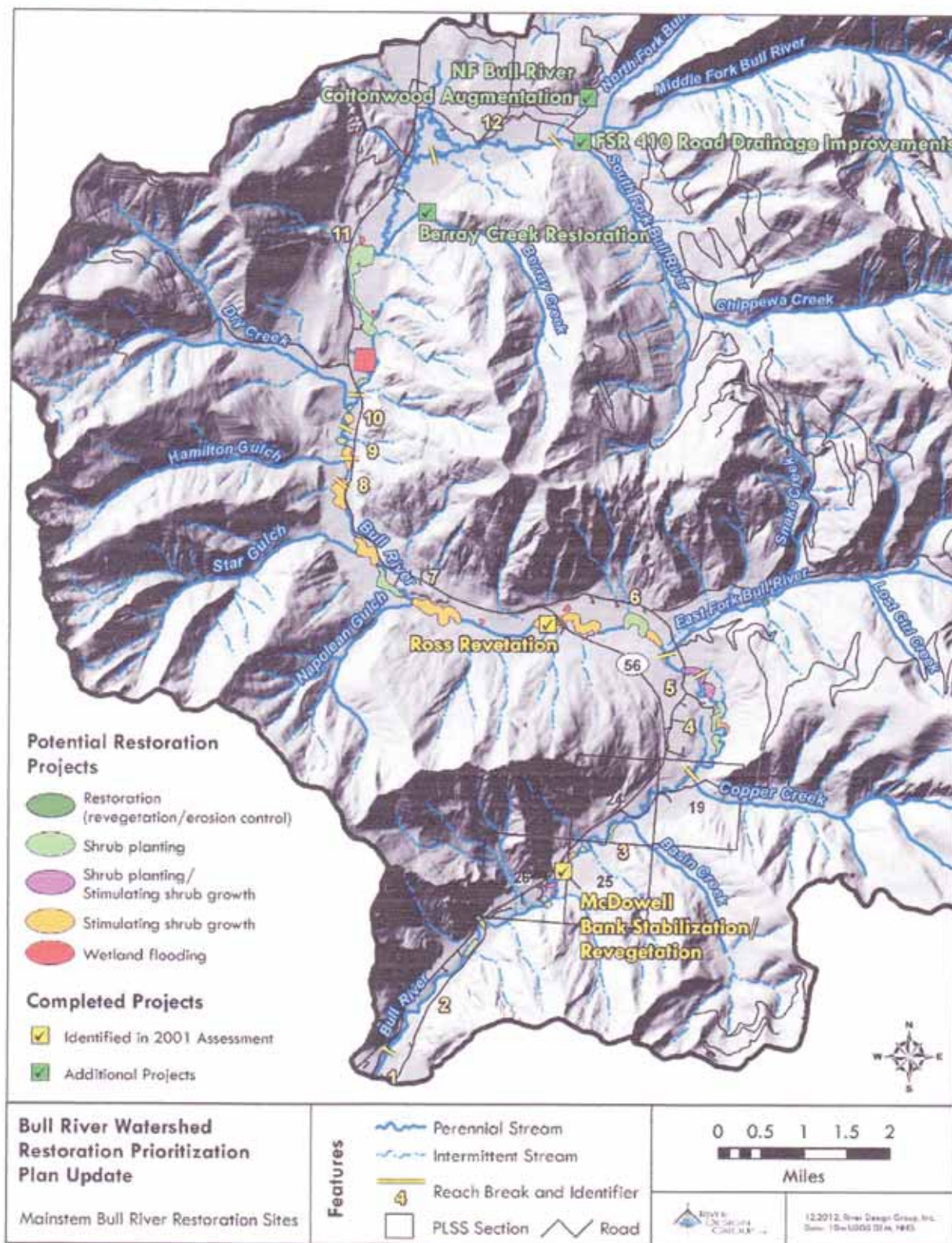


Figure 2-1. Potential and completed restoration sites on mainstem and North Fork Bull River, and Berray Creek.

STREAM RESTORATION AGREEMENT

This agreement dated April 4, 2013 between the Green Mountain Conservation District and Gary and Rosemary Page is entered into in order to authorize restoration work on Tuscor Creek as it flows on or adjacent to your property. This restoration project is located in Section(s) S9(SE), 16(NW), Township 24N, and Range 32W.

Work performed will be as described in the Contract with Watershed Consulting submitted by Lower Clark Fork Watershed Group.

This restoration project is intended to effect stream improvements, which are enduring in nature. Therefore the landowner agrees to protect and maintain the investment in restoration for a minimum of 20 years. This includes elimination of grazing from streamside areas for 3 years starting in 2012; management of subsequent streamside grazing in a manner approved by Green Mountain Conservation District; or elimination of other land use practices or activities that would negatively affect the restoration project.

Notwithstanding the foregoing, it shall not become the landowner's responsibility to repair or replace project improvements should they be damaged, changed or destroyed by natural means. The landowner guarantees ownership of the above-described land and warrants that there are no outstanding rights that will interfere with this cooperative agreement. Further, if land ownership is transferred, this agreement will remain valid for the period of the agreement.

This agreement may be terminated in writing by either party by providing thirty (30) days advance notice. If terminated by the private property owner, or the restoration site is degraded due to purposeful or negligent activities of the private property owner, the private property owner agrees to reimburse the Green Mountain Conservation District for the costs of needed repair work or the original cost of the project.

The Green Mountain Conservation District does not assume jurisdiction over the private property as a result of this agreement. The private property owner retains all normal property rights including the right to control trespass.

By: Sue Matthews
Coordinator, Lower Clark Fork Watershed Group

Sue Matthews 4/4/2013
Date

By: Gary and Rosemary Page
Private Landowner

Gary Page 4-23-2013
Rosemary Page
Date

Excerpt from
A REVEGETATION GUIDE
For the Lower Clark Fork River Basin

August 2009

Watershed Consulting, LLC
P. O. Box 17287
Missoula, MT 59808

Chapter 3, Steps for Successful Re-vegetation Efforts

Setting Revegetation Goals

The goals of a specific project are often the greatest influence on the choice of a revegetation technique. In the LCF watersheds, two basic goals drive the demand for revegetation:

1. To control erosion and mass wasting to prevent sediment delivery to sensitive streams and associated fish habitat. This includes projects intended to enhance bank strength.
2. To restore ecosystem function (i.e. watershed water holding capacity, bio-physical resiliency, etc).

To efficiently restore a disturbed site, choose the technique that involves the least effort and expense, yet achieves the planned goals. Chapter 4 goes into detail about different restoration techniques.

Revegetate in Phases

The most successful revegetation projects are often those implemented in phases or steps. A multi-year plan should develop a biological and physical foundation that increases the site revegetation potential for specific species or ecologic trends through time. Astute observations, patience and persistence are required for this approach. Often, the inability of funding to allow for multi-year budgets can be a stumbling block.

Phases and steps are not limited to planting and can include a variety of situations, for example:

- Conduct channel work, then allow for a flood event, followed by planting. This allows excessively well drained soils common after construction to “settle” and some macro-soil pore space to fill with silt during a flood. Examples of channel work design features that may increase their revegetation potential through time include:
 - Root wad revetments

- Constructed terraces or flood plains lacking soil fines or hydrologic connectivity
 - Terraces constructed by anchored brush bundles and erosion
 - Fill slopes
- Place fabric over invasive grass, wait two growing seasons to allow grass roots and rhizomes to decay, then plant or seed.
 - Plant fabric patches in phases as well, especially if cedar plantings are planned.
- Plant alder in an appropriate gravel substrate, let this grow for two seasons, then inter-plant other shrubs and conifers. This technique is highly successful. Two year old alder:
 - Provides quick bank stabilization;
 - Enhances the revegetation potential for other species;
 - Significantly decreases phase II plantings' mortality and stimulates conifer growth; and
 - Decreases animal browse issues



This photo on the Stein ownership on the East Fork of the Bull River demonstrates the outcome of a patient and persistent approach. Within this thicket planted cedar grows with vigor and will dominate this site in our lifetime.



This patch of fabric on the Thompson River provides an opportunity to fill the site with appropriate shrubs and conifers. The revegetation potential of this site (under the fabric) is very high.

Project Maintenance

Revegetation projects cannot be installed and abandoned. Most projects need some sort of maintenance for several years after completion. This effort should be included in the planning and design phase.

The most common maintenance needs include:

- Watering for one season
- Weeding for two seasons

Maintenance is strongly linked to monitoring and adaptive management. Practitioners are often surprised by unintended results such as weed infestations or pest and pathogen outbreaks.

Watering

Knowing which projects may need watering and which might establish without watering can be difficult. Generally:

- If the area is sub irrigated and weed mat is used, no watering is necessary.
- If the area is not sub irrigated and the depth to adequate moisture is greater than 12 inches (in August), then watering for one growing season will significantly increase plant survival. In these situations we recommend watering once around the third week in July and once around the second week in August.

Weeding

Weeding is necessary on many projects, especially those associated with weed fabrics. Weed fabric is typically used in either large swaths or 3x3 foot squares. In either case, weeds will grow up in the planting holes and compete aggressively with planted shrubs and trees. We have

found that weeding once in mid June for two growing seasons after planting will effectively remove most weeds from the site. The task takes much less effort the second season. By the third growing season plantings tend to keep most weeds at bay.

Monitoring, Adaptive Management and Gauging Success

Nearly every proposal or plan of action should include plans to monitor success or failure. We recommend an approach that links “adaptive management” to the lessons learned through monitoring. “Adaptive management” employed by some agencies is the process of learning by doing and taking appropriate actions when faced with problems.

Three elements lend themselves to successful monitoring, adaptive management and overall project success:

- Observation
- Adjustment
- Persistence

These are common themes in the most successful revegetation projects. These characteristics are also rare.

Observation

Observation is the on-the-ground portion of monitoring, where we look closely at our work. Two primary elements should be investigated dependent on the maturity of the project:
Survivorship & Function

1) Survivorship

To assess survivorship we must do more than calculate the ratio of living to dead plantings and characterize plant vigor. We should also re-assess the factors that limit plant establishment and growth. Often, our initial assessment did not detect important issues, and these issues may determine project success. With a little “hind sight” we can learn some valuable lessons and react accordingly. The post-project assessment “monitoring” should be similar in character to the initial site assessment.

Refer back to the Assessment Portion of this guide; four primary issues often mean the difference between success and failure:

- Soil Moisture & Aeration
- Animal Browse
- Plant to Plant Competition
- Long-Term Ecologic Trends

Our task here is to decipher *why* the plants live with vigor or die where they were planted.

2) Function

Project success should also be gauged by how well the vegetation is fulfilling the bio-physical needs of the watershed. Often this characteristic cannot be judged for several years after plant establishment. Issues we consider may include:

- Enhanced bank strength
- Stream bank complexity, for example: stable undercut banks
- Stream shade and associated cooler water temperatures
- Wildlife habitat, including insect habitat for fish food
- Appropriate ecologic trends

Very few revegetation projects in the LCF can be assessed for these issues, as many projects lack maturity. The best example we have may be the revegetation effort on the Stein ownership on the East Fork of the Bull River.

Adjustment & Persistence

Discerning issues, developing remedies and implementing a plan of action are key to long-term project success. Initial planning and design phases should build these elements into the project budget. Often persistence is the element that turns a project into an outstanding success. Again, the Stein ownership on the East Fork of the Bull River is a prime example. Practitioners monitored and adjusted techniques through time. Their persistence developed a riparian plant community that exceeded all expectations.



Ryan Kreiner
Montana Fish, Wildlife and Parks
PO Box 148
Thompson Falls, MT 59873
406-827-9282
November 17, 2014

To Green Mountain Conservation District:

Please consider this a letter of support from Montana Fish Wildlife and Parks (MFWP) for the recent proposal for restoration work on the mainstem Bull River. The proposed project calls for excluding and removing non-native reed canary-grass followed by establishment of large woody vegetation in order to eliminate sediment sources identified in previous surveys. The Bull River is a popular local sport fishery and contains important spawning and rearing habitat for native salmonids, including bull trout and westslope cutthroat trout.

This project is consistent with several documents which guide MFWP's management activities. The Statewide Fisheries Management Plan states the need to continue to restore degraded habitat identified in the Bull River Watershed Assessment. The Clark Fork Settlement Agreement is a multi-agency collaboration and serves as a guiding document for wildlife, fish, and land management in the Lower Clark Fork Watershed. It states as a goal, the enhancement of fish and wildlife, including habitat.

In the opinion of MFWP, this project will work towards reduced sediment levels in the Bull River, as well as more shade, stable banks and large wood for fish habitat.

Thank you for the opportunity to comment.

Sincerely,

Ryan Kreiner

Montana Statewide Fisheries Management Plan- <http://fwp.mt.gov/fishing/>

Clark Fork Settlement Agreement-
<http://www.avistautilities.com/environment/clarkfork/Pages/license.aspx>

Bull River Watershed Council

11/17/2014

Green Mountain Conservation District
P. O. Box 1329
Trout Creek, Montana 59874

Dear Board of Supervisors,

Please accept this letter of support from the Bull River Watershed Council for your application to the Montana Future Fisheries Improvement Program for the Bull River Riparian Restoration Project.

As a local landowner-driven organization, the Bull River Watershed Council has been active in, and supportive of, involving landowners and residents in the restoration of watersheds in the lower Clark Fork basin for many years. Over time, the Council has successfully partnered with landowners and technical professionals to carry out a number of strategically important fish habitat and stream restoration projects in the Bull River watershed.

We are pleased to support and participate in the Bull River riparian re-vegetation project. As you know, we conducted a public meeting and sent a direct mail letter to local residents to inform them of the proposed project and the opportunities available for restoring riparian habitats on private property. To date, there has been terrific response and interest from property owners who want to participate, and site tours have taken place to identify several initial properties for restoration.

We look forward to working with Green Mountain Conservation District, Bull River landowners and other partners on this project, and hope that the Future Fisheries grant application to FWP is successful.

Sincerely,

A handwritten signature in cursive script that reads "Kathy Ferguson".

Kathy Ferguson, Coordinator
Bull River Watershed Council



LOWER CLARK FORK
WATERSHED GROUP

PO Box 1329
Trout Creek, MT 59874
406-626-1919, Sue Matthews, matthews@bigsky.net

November 17, 2014

Green Mountain Conservation District
P. O. Box 1329
Trout Creek, Montana 59874

Dear Board of Supervisors,

Please accept this letter of support from Lower Clark Fork Watershed Group (LCFWG) for your application to the Montana Future Fisheries Improvement Program for the Bull River Riparian Restoration Project.

For over a decade, LCFWG has been actively engaged in improving and maintaining fish habitat and stream health by working directly with local landowners in the restoration of tributaries in the Lower Clark Fork River basin. In the Bull River, we are pleased to be working side-by-side with landowners, Green Mountain Conservation District, agencies, contractors, local public schools and other partners to help implement this important restoration project.

We have already seen great interest and participation from landowners in this project. The Bull River riparian re-vegetation project is an excellent example of involving stream-side landowners in a restoration approach that will reduce sediment levels and improve habitat for fish. These benefits are especially important since the Bull River is a significant tributary for the viability of bull trout in the entire Lower Clark Fork system.

Our organization is pleased to participate in the Bull River project, especially since we have seen firsthand how streams can benefit from improved riparian areas.

We look forward to continued work with Green Mountain Conservation District on this project. And we hope that the grant application to Montana Future Fisheries Improvement Program is successful so that the optimum amount of riparian footage can be improved.

Sincerely,

A handwritten signature in cursive script that reads 'Sue Matthews'.

Sue Matthews, Watershed Coordinator



November 19, 2014

Green Mountain Conservation District
P. O. Box 1329
Trout Creek, Montana 59874

Dear Board of Supervisors,

This letter confirms support from Avista for the Future Fisheries Improvement Program funding request being submitted by Green Mountain Conservation District to Montana Fish, Wildlife & Parks for the Bull River Riparian Restoration Project.

Through the license for operation of hydroelectric projects at Cabinet Gorge and Noxon Rapids, Avista has committed long-term funding, which began in 1999, for aquatic and terrestrial habitat enhancements in the Lower Clark Fork River ecosystem. The Bull River watershed is, and will remain, a high priority for on-the-ground projects and fisheries monitoring for the remaining 33 years of our current license.

In this light, Avista is providing cost share toward the proposed project at Bull River. Some of this cost share is for related fisheries work in the Bull River watershed that has already been approved through the Clark Fork Project ranking and approval process. Additional cost share is pending review and Management Committee approval in March 2015. As a participant in the Lower Clark Fork Technical Advisory Committee, Avista will also provide technical assistance to Green Mountain Conservation District throughout the course of this project.

Avista looks forward to furthering our work with Green Mountain Conservation District and other project partners to implement the Bull River project. We have found that a collaborative and cooperative approach to resource protection and enhancement, involving a wide variety of stakeholders and available resources, instills personal ownership and increases the likelihood of long-term success of a proposed project.

We hope that Green Mountain Conservation District is successful in securing the Future Fisheries grant in order to maximize the area of riparian habitat that can be improved through this collaborative project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joe DosSantos", written over a horizontal line.

Joe DosSantos, Clark Fork Aquatic
Program Manager

From: **Sue Matthews** <matthews@bigsky.net>
Date: Tue, Apr 29, 2014 at 10:19 AM
Subject: Fwd: FW: Bull River Watershed Council

FYI. Look at this nice response received by the Bull River Watershed Council from the property owners letter we sent out! sm

Sue Matthews, Coordinator
Lower Clark Fork Watershed Group
21413 Nine Mile Road
Huson, MT 59846
[406-626-1919](tel:406-626-1919)
matthews@bigsky.net

From: A Warrington

Sent: Monday, April 28, 2014 6:23 PM
To: tomkat@blackfoot.net
Subject: Bull River Watershed Council

Hi Kathy,

It was so good to visit with you today and to learn about the hopes and plans for restoring the Bull River. I can't tell you how excited I and my family are to have some help in doing this project. It was too overwhelming for us to try to do ourselves.

We would love to see the river restored and will do what we can to assist.

I will give you my sons e-mail addresses so that you can send the information as it is available to all of us. That would be great.

Brad will be in Montana most of the month of August and I am sure would like to be involved/assist as much as possible.

Thank you for all what you are doing for the River and environment.

Looking forward to meeting you in person.

Ann Warrington

Emails to:
Sue Matthews, Coordinator
Lower Clark Fork Watershed Group
21413 Nine Mile Road
Huson, MT 59846
406-626-1919
matthews@bigsky.net

On October 30, 2014 at 8:51 PM, Kara Walder wrote:

Hi Sue,

You are welcome to visit our property at Bull River regarding the re-vegetation whenever you need.

Driving North on 200, I think it's the 2nd driveway north of mile marker 5, but can't recall exactly. The 1st driveway has a metal gate, that's not us. Our driveway is a bit overgrown, and there should be a yellow and black sign posted near the treeline that explains that the road is permitted from USDA to 4Winds Land Trust. At the end of the drive, you'll see an small old camper trailer. It's quite steep down to the riverbank and we own about 2,200 feet of the grassy waterfront north of our driveway. Because of a large stream exiting the low area, I find it best to access the solid part of the low area by walking across forest service land, starting at the highway and following game trails. I recommend bringing water boots. During the summer, the grass is so high I get lost down there, but this time of year it should be fallen over.

If you need help finding the property line markers, we're happy to help, but won't have time until Spring.

Thanks!
Kara Waldher
Trustee, 4Winds Land Trust

On June 25, 2014 at 5:44 PM, Kara Walter wrote:

This is Kara Waldher, trustee for the 4Winds Land Trust along Bull River. After reviewing your information, we are interested in starting the process for the planting program.

Thank you,
Kara

On May 20, 2014 at 9:33 AM, Kara Waldher wrote:

I'm a property owner along Bull River and received a notice, dated March 11, sent April 15, regarding planting of trees along Bull River. I am interested in receiving more information about the project.

Thank you,
Kara Waldher, trustee
4Winds Land Trust